



Programmatic Overview

DOE OFFICE OF ENVIRONMENTAL MANAGEMENT

EML supports the DOE Office of Environmental Management (EM) through (1) acting as a Federal technical lead, (2) providing performance testing, and (3) supporting field surveys. Radiological surveys are a fundamental component of environmental restoration projects at DOE facilities. EML provides an opportunity for an independent check on the calibration and an assessment of the performance of field measurements of environmental radiation under real conditions.

Descriptions

- EML provides support of EM technology development and its applications through an integrated strategy consisting of assessing proposals, monitoring project progress, evaluating project products, and brokering the implementation of the technology among the contractor, regulator and program office.
- As Federal technical experts, EML acts as an EM internal, non-prejudicial resource to review/evaluate proposals and funded programs addressing characterization and contaminant transport.
- EML represents EM in coordinating the technical activities of the Joint Coordinating Committee for Environmental Restoration and Waste Management (JCCEM) cooperative projects for the Site Characterization and Contaminant Transport Focus Area.
- EML's environmental calibration facility includes an EML designed calibration bench to provide precise geometry for shadow shielding and angular response measurements of pressurized ionization chambers (PICs) using a NIST certified sealed 37 MBq ^{226}Ra source. The same bench can be used for energy response and angular response measurements of germanium detectors for application to *in-situ* gamma spectrometry.
- EML's environmental chamber is used to test air samplers. A low background testing or storage area is available in a former whole body counter where the background radiation exposure rate is $1.6 \mu\text{R h}^{-1}$ ($\sim 20 \text{ nSv/h}$), a factor of four less than that outside the vault.
- A field site at the Brookhaven National Laboratory has been characterized with EML's portable ionization chamber, *in-situ* gamma spectrometry, and soil sampling and outfitted with EML low scatter dosimeter racks for deploying passive dosimeters at a fixed height.
- EML provides support to DOE and contractor staff in planning and conducting surveys to characterize radioactive contamination and to certify that release criteria have been met. As a non-contractor DOE Lab, EML serves as an important technical interface between DOE site personnel and the contractors who are engaged in survey programs.

Accomplishments

- EML collaborated with the Morgantown Energy Technology Center (METC) in proposal reviews and has recently participated in the federal review of the EM/ER research initiative proposals.
- EML provides, free of charge and without prejudice, a "RADIOACTIVITY HOTLINE" on an ad hoc basis by which advice and consultation are provided to those who inquire.
- The BNL field site was used for the 11th International Intercomparison of Environmental Dosimeters.
- EML served as a technical liaison for the Team Leader of Operable Unit Five in dealing with the Soil Characterization and Excavation Project of the Fernald Environmental Restoration Management Corporation. The Field Surveys Team supported Area 1- Phase 1 operations where attempts were made to have *in-situ* spectrometry applied for certification measurements and for testing of contaminated soils using pre-determined waste acceptance criteria.
- EML has collaborated with BNL on characterization and monitoring of the Sump Outfall Area of Operable Unit IV.

Points of Contact

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